

Applicant : Shohei Koide
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Filed : July 11, 2001
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Attorney's Docket No.: 17027.003US1

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IN THE CLAIMS

1. (Currently amended) A modified human fibronectin type III (Fn3) molecule comprising a stabilizing mutation of at least one residue involved in an unfavorable electrostatic interaction as compared to the wild-type human Fn3, wherein the stabilizing mutation is a substitution of at least one of Asp 7, Asp 23 or Glu 9 with a neutral or positively charged amino acid residue, wherein amino acid residue 6 is Arg.
- 2-3. (Canceled)
4. (Previously presented) The Fn3 of claim 1, wherein Asp 7 or Asp 23, or both, have been substituted with an asparagine (Asn) or lysine (Lys) residue.
- 5-6. (Canceled)
7. (Previously presented) The Fn3 of claim 1, wherein Glu 9 has been substituted with an asparagine (Asn) or lysine (Lys) residue.
8. (Previously presented) The Fn3 of claim 1, wherein Asp 7, Asp 23, and Glu 9 have been substituted with a neutral or positively charged amino acid residue.
- 9-54. (Canceled)
55. (Previously presented) The Fn3 of claim 1, wherein the stabilizing mutation is a substitution of at least one of Asp 7, Asp 23 or Glu 9 with a neutral amino acid residue.
56. (Previously presented) The Fn3 of claim 1, wherein the stabilizing mutation is a substitution of at least one of Asp 7, Asp 23 or Glu 9 with a positively charged amino acid residue.

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57. (Currently amended) A modified human tenth type III module of fibronectin (FNfn10) molecule comprising a stabilizing mutation of at least one residue involved in an unfavorable electrostatic interaction as compared to the wild-type human FNfn10 molecule, wherein the stabilizing mutation is a substitution of at least one of amino acid residues 7, 9 or 23 with a neutral or positively charged amino acid residue, wherein amino acid residue 6 is Arg.
58. (Canceled)
59. (Previously presented) The modified FNfn10 of claim 57, wherein the stabilizing mutation is a substitution of at least one of amino acid residues 7, 9 or 23 with a neutral amino acid residue.
60. (Previously presented) The modified FNfn10 of claim 57, wherein the stabilizing mutation is a substitution of at least one of amino acid residues 7, 9 or 23 with a positively charged amino acid residue.
61. (Previously presented) The modified FNfn10 of claim 57, wherein amino acid residues 7 or 23, or both, have been substituted with an asparagine (Asn) or lysine (Lys) residue.
62. (Previously presented) The modified FNfn10 of claim 57, wherein amino acid residue 9 has been substituted with an asparagine (Asn) or lysine (Lys) residue.
63. (Previously presented) The modified FNfn10 of claim 57, wherein amino acid residues 7, 9 and 23 have been substituted with a neutral or positively charged amino acid residue.
64. (Previously presented) The Fn3 of claim 1, wherein amino acid residue 1 is Val.
65. (Canceled)

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66. (Previously presented) The Fn3 of claim 55, wherein Asp 7 is substituted with a neutral amino acid.
67. (Previously presented) The Fn3 of claim 56, wherein Asp 7 is substituted with a positive amino acid.
68. (Previously presented) The Fn3 of claim 55, wherein Glu 9 is substituted with a neutral amino acid.
69. (Previously presented) The Fn3 of claim 56, wherein Glu 9 is substituted with a positive amino acid.
70. (Previously presented) The Fn3 of claim 55, wherein Asp 23 is substituted with a neutral amino acid.
71. (Previously presented) The Fn3 of claim 56, wherein Asp 23 is substituted with a positive amino acid.
72. (Previously presented) The Fn3 of claim 4, wherein Asp 7 is substituted with an Asn residue.
73. (Previously presented) The Fn3 of claim 4, wherein Asp 7 is substituted with a Lys residue.
74. (Previously presented) The Fn3 of claim 7, wherein Glu 9 is substituted with an Asn residue.
75. (Previously presented) The Fn3 of claim 7, wherein Glu 9 is substituted with a Lys residue.

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76. (Previously presented) The Fn3 of claim 4, wherein Asp 23 is substituted with an Asn residue.
77. (Previously presented) The Fn3 of claim 4, wherein Asp 23 is substituted with a Lys residue.
78. (Previously presented) The Fn3 of claim 57, wherein amino acid residue 1 is Val.
79. (Canceled)
80. (New) A modified human fibronectin type III (Fn3) molecule comprising a stabilizing mutation of at least one residue involved in an unfavorable electrostatic interaction as compared to the wild-type human Fn3, wherein the stabilizing mutation is a substitution of Asp 7 or Asp 23 with a positively charged amino acid residue.
81. (New) The Fn3 of claim 80, wherein the stabilizing mutation is a substitution of Asp 7, with a positively charged amino acid residue.
82. (New) The Fn3 of claim 80, wherein the stabilizing mutation is a substitution of Asp 23, with a positively charged amino acid residue.